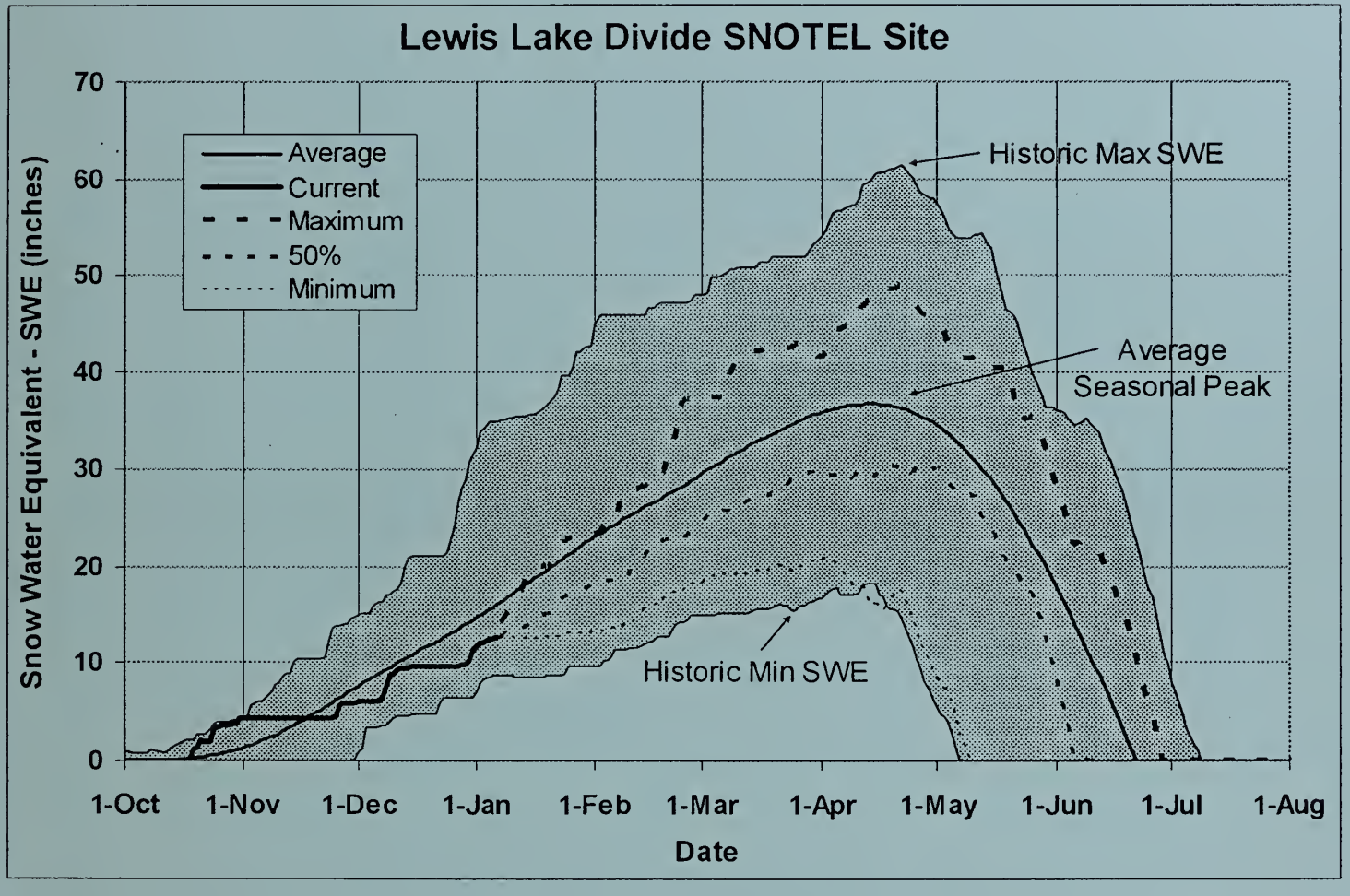
United States Department of Agriculture
Natural Resources Conservation Service

Idaho Water Supply Outlook Report January 1, 2005



Lewis Lake Divide SNOTEL site is located in Yellowstone National Park, Wyoming and is an excellent indicator of the water storage available to the Upper Snake Basin. The graph shows that the average seasonal peak for this site equals 37 inches of water, the historic maximum peak is 61 inches and the historic minimum is 18 inches. Lewis Lake has accumulated only 13 inches of SWE so far this season and is 3 inches below average. The 50% line represents the projected accumulation given average precipitation for the rest of the winter. Under these conditions, Lewis Lake is likely to accumulate only 29 inches of SWE which is 80% of the average seasonal peak. Winter precipitation would have to be 126% of average for the rest of winter to reach the average seasonal peak in mid-April. Even with extremely wet or dry weather conditions for the rest of the season, it is highly unlikely that the maximum snowpack at Lewis Lake Divide SNOTEL site will exceed 48 inches or fall below 20 inches of SWE for the season.

Basin Outlook Reports
and Federal - State - Private Cooperative Snow Surveys

For more water supply and resource management information, or to subscribe to this publication

Contact - - Your local Natural Resources Conservation Service Office
or
Natural Resources Conservation Service
Snow Surveys
9173 West Barnes Drive, Suite C
Boise, Idaho 83709-1574
(208) 378-5740

Internet Web Address
http://www.id.nrcs.usda.gov/snow/

How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

IDAHO WATER SUPPLY OUTLOOK REPORT

January 1, 2005

SUMMARY

The water supply outlook in Idaho is marginal as the halfway point of the winter approaches in mid-January. Snowpacks range from 55% of average in parts of northern Idaho to 105% in the Bear River basin. Well above average precipitation in October was followed by well below average precipitation in November, 25% of average in the central Idaho mountains. December's precipitation was near average and fell either in the beginning or end of the month while high pressure diverted storms around Idaho. The Bear River basin hosts the highest water year to date precipitation at 114% of average while the west central and Salmon basins is the lowest at 72%. The good news is soil moisture is better than a year ago because of the fall rains. The bad news is reservoir storage remains near minimum levels across central and southern Idaho, while northern Idaho reservoirs are above average. Streamflow forecasts range from 70-90% of average for most Idaho streams with the exception of the Bear River forecast at 53% of average. With more than half the winter still to come, conditions can improve for the better or deteriorate with below average precipitation in the remaining winter months. Stay tuned to see if southern Idaho can pull out of the five year drought with a good snowfall or wet spring, or continue the doldrums pattern of a 70-90% of snowpack on April 1 resulting in streamflow of 10-70% of average like the last several years.

SNOWPACK

Most Idaho snowpacks are below the January 1 average once again and are also considerably shallower than the snowpacks for this time last year. Bear River, Oakley, Salmon Falls, Little Wood and Camas-Beaver Creek basins are the only exceptions that are near to above average as of January 1. However, several major basins including the Clearwater, Salmon, Payette, Snake above Palisades and Owyhee fall in the 60-80% of average range. Across the rest of the state, most basins range from 80-95% of average. As the halfway point for winter snowpack accumulation approaches in mid-January, Idaho snowpacks statewide are still only 30-40% of the seasonal peak that occurs around April 1.

PRECIPITATION

Contrary to last year, October provided well above average precipitation, mostly in the form of rain, and increased soil moisture levels across the state. The wet October also raised current water year to date precipitation amounts substantially higher than snow water equivalent amounts for all basins. However, November precipitation amounts were below average across the state at only a quarter of average in the central mountains. December precipitation faired better with amounts ranging from 70-115% of average. Water year to date precipitation amounts range from a low of 70% of average in the Payette and Salmon basins to 114% in the drought ridden Bear River basin.

RESERVOIRS

Reservoir storage across the state remains well below average across southern and eastern Idaho. Some are storing a little more water than last year, but are still near minimal storage levels for January 1 because of cumulative drought effects. Northern Idaho and the Payette basin reservoirs are in better shape than last year at this time. Combined storage for Coeur d'Alene Lake, Lake Pend Orielle and Priest Lake is 56% of capacity, 127% of average and 162% of last year. Dworshak reservoir is at 76% of capacity and 118% of average. In the Payette Basin, Cascade and Deadwood reservoir storage is a combined 63% of capacity, 99% of average, slightly higher than last year. The Boise reservoir system is only at 38% of capacity and 69% of average. The cumulative drought has taken its toll on reservoir storage in the rest of the state. Magic Reservoir is the same as a year ago, nearly empty at 10% of capacity, only 25% of average. Little Wood and Mackay are 35% full. Jackson and Palisades reservoirs are slightly higher than last year at 27% of capacity, 41% of average, whereas Blackfoot reservoir remains well below average (13%) with only 28,000 acre-feet. South of the Snake River, Oakley and Salmon Falls are still nearly empty and are 13% and 8% full, respectively whereas Brownlee reservoir is 105% of average. The drought impacts continue in Bear Lake which takes the honors for recording its lowest December storage since the 1930's. Bear Lake holds only 95,700 acre-feet (40,000 acre-feet less than last year) which is 7% of capacity and 11% of average.

Note: NRCS reports reservoir information in terms of usable volumes, which includes both active, inactive and in some cases, dead storage. Other operators may report reservoir contents in different terms. For additional information, see the reservoir definitions in this report.

STREAMFLOW

Streamflow forecasts for most basins are in the 60-80% of average range for the April-September period. The Bear River at Stewart Dam is once again the lowest forecast in the state at 53% of average, better than the last several years which saw flows less than 10% of average. However, the Bear River headwater streams are in much better shape forecast at average volumes. The highest forecasts are in a few isolated basins at 85-90% of average. These forecast numbers are the volume under the 50% Chance of Exceeding, which means there is a 50% chance the volume will be greater or less than the given value. Due to the last five years of drought conditions, water users may consider using a lesser exceedance forecast to reduce the risk of coming up short on water. The forecasts are not looking too promising as of now but with so many unknown variables such as future winter and spring precipitation and timing of runoff, it is too early to determine whether water supplies will improve this year or if the drought will continue. On a positive note, antecedent soil moisture conditions appear to be better than last year when much of snowmelt ran directly into the parched soils instead of running off into the streams and reservoirs. Thanks to above average October rain and rain-on-snow events in mid-December, soils across the state should remain wet through the winter which could provide ideal spring runoff conditions and improve streamflows given normal precipitation and temperatures.

RECREATION

You may not have seen too many big smiles on winter recreationists' faces so far this season, most can still count the number of powder days on one hand as the halfway mark of winter approaches. Without a couple of good storms in early December and over the holidays, skis and snowshoes would still be in the basement and snowmobiles still in the garage. The settling of the early snowfall and cold temperatures in December has provided a good frozen snow base. Conditions should improve and provide some of the best winter recreation opportunities of the new year as the potential for severe storms in early January could bring large accumulations of snow across Idaho.

WHAT'S NEW WITH THE IDAHO NRCS SNOW SURVEY?

Soil moisture sensors were installed at six SNOTEL sites this summer. This brings our total number of SNOTEL sites equipped with soil moisture sensors to 25. Soil moisture data and graphs are available at this link:
http://www.id.nrcs.usda.gov/snow/climate/

Snow depth sensors are now at 65 of the 117 SNOTEL sites monitored by the Idaho Snow Survey Office. This data is available at:
http://www.id.nrcs.usda.gov/snow/recreation/

Streamflow forecast equations were recently redeveloped to include the most recent drought years in the Big Wood, Little Wood, Big Lost, Little Lost, Bear, Salmon Falls, and parts of the upper Snake basin. The new equations use late summer streamflow rather than fall streamflow as an indication of soil moisture conditions. The equations also take advantage of more streamflow stations' data being available in a timely manner. It is interesting to note that because of the surface and groundwater connection in the Big Lost and Little Lost basins, the previous year's April 1 snow water equivalent amounts, in conjunction with the current year's data are used to forecast the current year's flow. The equations should improve our forecast capabilities, but Mother Nature still has the final say on how each season will end.

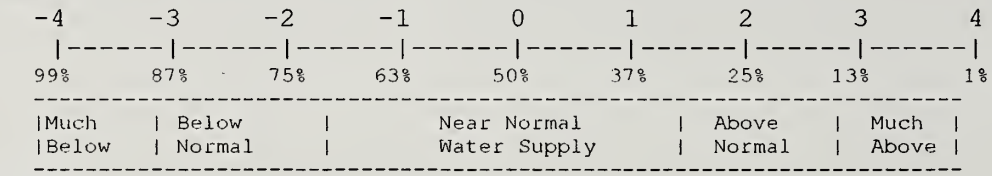
IDAHO SURFACE WATER SUPPLY INDEX (SWSI) As of January 1, 2005

The Surface Water Supply Index (SWSI) is a predictive indicator of surface water availability within a watershed for the spring and summer water use season. The index is calculated by combining pre-runoff reservoir storage (carryover) with forecasts of spring and summer streamflow. SWSI values are scaled from +4.0 (abundant supply) to -4.0 (extremely dry), with a value of zero indicating a median water supply as compared to historical occurrences. The SWSI analysis period is from 1971 to present.

SWSI values provide a more comprehensive outlook of water availability by combining streamflow forecasts and reservoir storage where appropriate. The SWSI index allows comparison of water availability between basins for drought or flood severity analysis. Threshold SWSI values have been determined for some basins to indicate the potential for agricultural irrigation water shortages.

BASIN or REGION	*SWSI Value*	*Most Recent Year With Similar SWSI Value*	*Agricultural Water Supply Shortage May Occur When SWSI is Less Than*
PANHANDLE	-2.2	1995	NA
CLEARWATER	-2.1	1998/95	NA
SALMON	-0.5	2002/03	NA
WEISER	-1.7	2004	NA
PAYETTE	-1.7	2002	NA
BOISE	-1.4	2002	-2.1
BIG WOOD	-1.7	2003	-1.0
LITTLE WOOD	0.2	1985	-2.0
BIG LOST	-1.0	2003	-0.5
LITTLE LOST	-1.9	2000	0.0
HENRYS FORK	-2.9	2002	-3.3
SNAKE (HEISE)	-2.4	2003	-2.0
OAKLEY	-1.9	2001	-1.0
SALMON FALLS	-2.1	2004	-1.0
BRUNEAU	-1.0	2004	NA
BEAR RIVER	-3.8	2003/04	-3.8

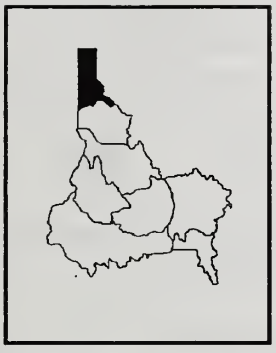
SWSI SCALE, PERCENT CHANCE OF EXCEEDANCE, AND INTERPRETATION

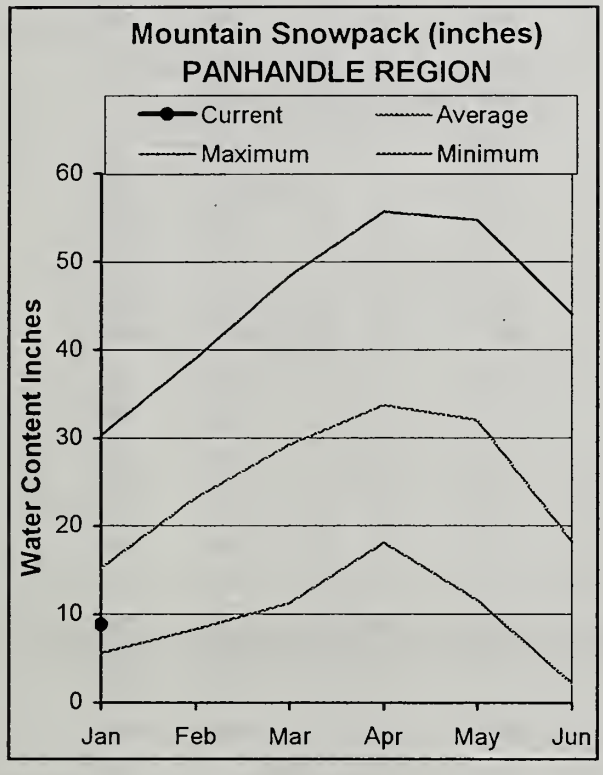


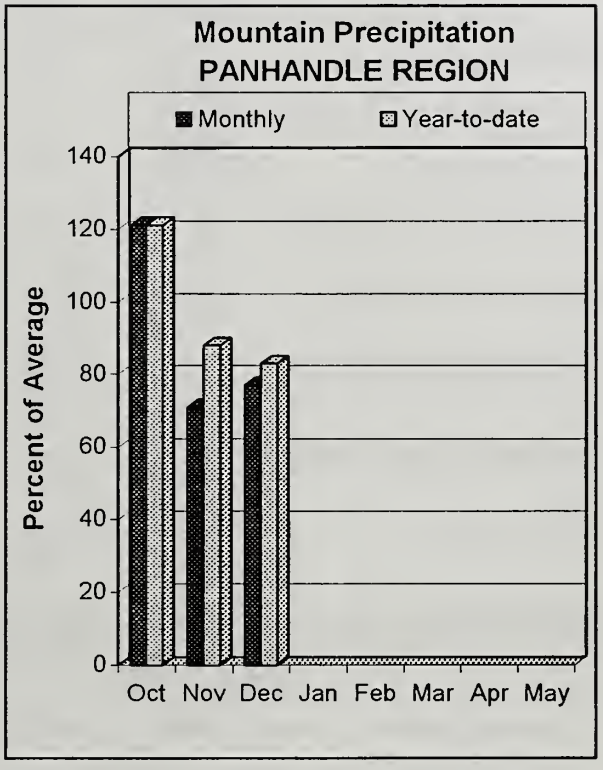
NA = Not Applicable

Note: The Percent Chance of Exceedance is an indicator of how often a range of SWSI values might be expected to occur. Each SWSI unit represents about 12% of the historical occurrences. As an example of interpreting the above scale, the SWSI can be expected to be greater than -3.0, 87% of the time and less than -3.0, 13% of the time. Half the time, the SWSI will be below and half the time above a value of zero. The interval between -1.5 and +1.5 described as "Near Normal Water Supply," represents three SWSI units and would be expected to occur about one-third (36%) of the time.

PANHANDLE REGION
JANUARY 1, 2005







WATER SUPPLY OUTLOOK

Monthly precipitation in September and October was 144% and 120% of average, respectively. However, November and December brought only three-quarters of normal precipitation. Precipitation since the water year started October 1 is 85% of average and less than last year at this time. Snowpacks in Idaho's Panhandle Region are the lowest in the state ranging from 53% of average in the Spokane basin to 75% in the Kootenai basin and only half to three-quarters of last year's January 1 amounts. The St. Joe basin snowpack is 57% of average, 7th lowest January 1 snowpack since 1961 based on a three station snow index. Several fall precipitation events produced streamflow increases and is keeping reservoir storage at average or better levels in Pend Oreille, Coeur d'Alene and Priest lakes. Streamflow forecasts range from 65-80% of average for most streams. Precipitation that is 30% above average is needed to reach average snow levels by April 1 and would improve the water supply outlook in these northern Idaho basins.

PANHANDLE REGION
Streamflow Forecasts - January 1, 2005

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
KOOTENAI at Leonia (1,2)	APR-JUL	4560	5860	6450	92	7040	8340	7040
	APR-SEP	4720	6590	7440	92	8290	10160	8120
MOYIE RIVER at Eastport	APR-JUL	215	275	315	78	355	415	405
	APR-SEP	220	285	325	77	365	430	420
SMITH CREEK	APR-JUL	59	77	89	72	101	119	123
	APR-SEP	59	79	92	71	105	125	129
BOUNDARY CREEK	APR-JUL	67	84	95	77	106	123	123
	APR-SEP	70	87	99	77	111	128	129
CLARK FK at Whitehorse Rpds (1,2)	APR-JUL	3370	6760	8300	74	9840	13230	11300
	APR-SEP	3690	7430	9120	73	10810	14550	12500
PEND OREILLE Lake Inflow (2)	APR-JUL	5190	7670	9350	74	11030	13510	12700
	APR-SEP	5660	8360	10200	73	12040	14740	13900
PRIEST near Priest River (1,2)	APR-JUL	460	600	665	82	730	870	815
	APR-SEP	380	605	710	82	815	1040	870
NF COEUR D'ALENE RIVER AT ENAVILLE	APR-JUL	290	415	500	68	585	710	740
	APR-SEP	305	435	525	67	615	745	780
ST. JOE at Calder	APR-JUL	490	675	800	70	925	1110	1140
	APR-SEP	535	725	850	71	980	1170	1200
SPOKANE near Post Falls (2)	APR-JUL	860	1350	1690	66	2030	2520	2550
	APR-SEP	900	1400	1750	66	2100	2600	2650
SPOKANE at Long Lake (2)	APR-JUL	910	1550	1980	70	2410	3050	2850
	APR-SEP	1020	1690	2150	70	2610	3280	3070

PANHANDLE REGION
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HUNGRY HORSE	3451.0	3022.0	2666.0	2420.9
FLATHEAD LAKE	1791.0	1251.0	1119.0	1192.7
NOXON RAPIDS	335.0	316.6	310.8	315.8
PEND OREILLE	1561.3	898.5	553.4	673.4
COEUR D'ALENE	238.5	110.5	42.5	110.1
PRIEST LAKE	119.3	59.1	63.2	55.7

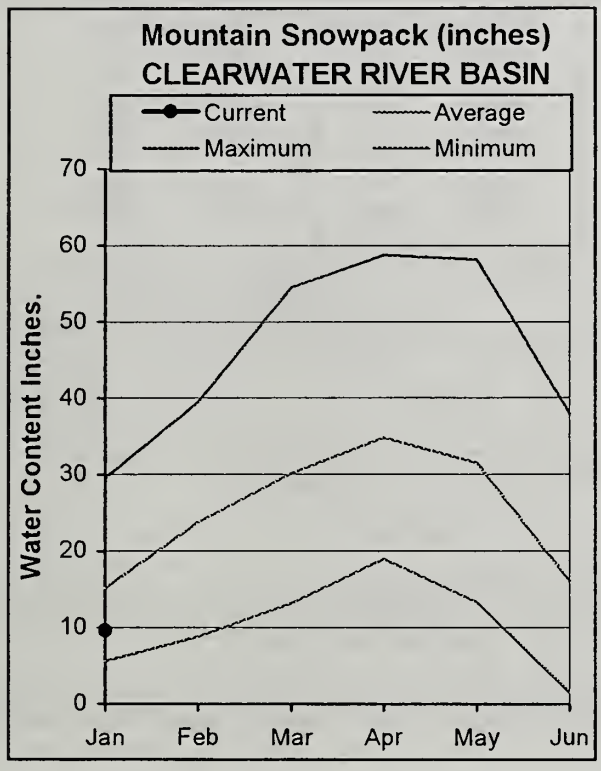
PANHANDLE REGION
Watershed Snowpack Analysis - January 1, 2005

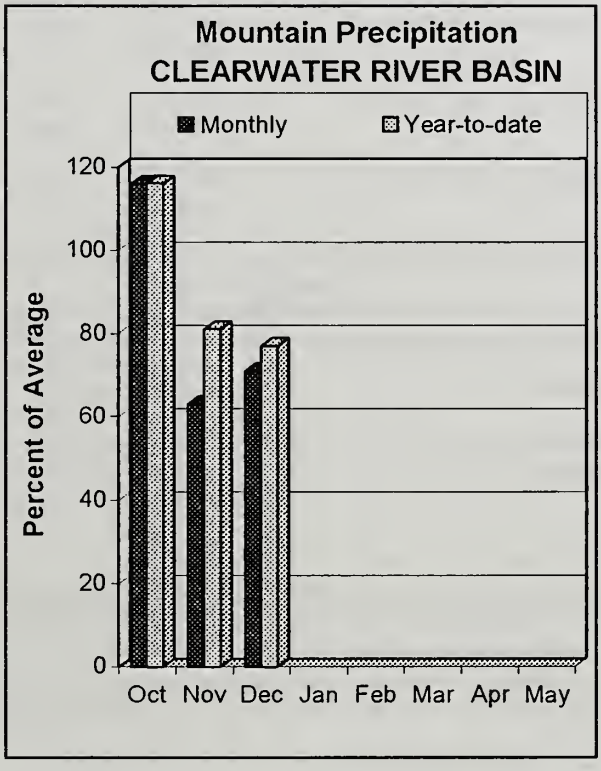
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Kootenai ab Bonners Ferry	15	78	75
Moyie River	4	88	76
Priest River	4	65	65
Pend Oreille River	65	66	65
Rathdrum Creek	1	43	45
Hayden Lake	0	0	0
Coeur d'Alene River	6	48	54
St. Joe River	4	60	57
Spokane River	9	50	53
Palouse River	1	31	31

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.
(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

CLEARWATER RIVER BASIN
JANUARY 1, 2005





WATER SUPPLY OUTLOOK

Late summer and early fall precipitation was above average. August precipitation was near record at 300% of average, improved soil moisture and even allowed some late season river running opportunities. However, , since then it has been all downhill in terms of precipitation: September precipitation was 159% of average, October was 116%, November 63% and December was 71%. It appears El Nino has struck the Clearwater basin. The North Fork Clearwater River basin has one of the highest correlations in the West between El Nino / Southern Oscillation Index and winter precipitation/summer streamflow. Usually, but not always, an El Nino means below normal winter precipitation to north-central Idaho. Pockets of near record low snow water amounts can be found in the headwater of the Lochsa basin. Lolo Pass SNOTEL site has 6.7 inches of snow water; average is 13.0 inches for January 1. This is the second lowest January 1 value since 1961; only 1977 had less snow with 5.1 inches. Snowpacks are currently 54% of average in the Lochsa basin, 62% in the North Fork Clearwater basin, and 71% in the Selway basin. Overall, the Clearwater basin snowpack is 62% of average, which is slightly more than half of last year's snowpack on January 1. An index of 13 snow stations in the Clearwater basin shows this year's snowpack is the 7th lowest since 1961. Streamflow forecasts are for 72-79% of average. On the positive side, Dworshak Reservoir is 118% of average, 76% of capacity, and the water supply outlook can still improve with more than half the winter still to come. This happened in 2003, another slight El Nino year, which had a similar January 1 snowpack and ended the season near average on April 1.

CLEARWATER RIVER BASIN

Streamflow Forecasts - January 1, 2005

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SELWAY near Lowell	APR-JUL	990	1310	1520	74	1730	2050	2060
	APR-SEP	1040	1370	1600	74	1830	2160	2170
LOCHSA near Lowell	APR-JUL	705	940	1100	72	1260	1500	1530
	APR-SEP	760	1000	1160	72	1320	1560	1610
DWORSHAK RESV INFLOW (1,2)	APR-JUL	1372	1722	1960	74	2350	3210	2640
	APR-SEP	1472	1834	2080	74	2470	3330	2800
CLEARWATER at Orofino (1)	APR-JUL	2483	3184	3660	79	4350	5870	4650
	APR-SEP	2666	3377	3860	79	4550	6070	4900
CLEARWATER at Spalding (1,2)	APR-JUL	3742	4860	5620	76	6790	9360	7430
	APR-SEP	3994	5147	5930	76	7100	9670	7850

CLEARWATER RIVER BASIN

Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
DWORSHAK	3468.0	2627.3	2209.0	2228.2

CLEARWATER RIVER BASIN

Watershed Snowpack Analysis - January 1, 2005

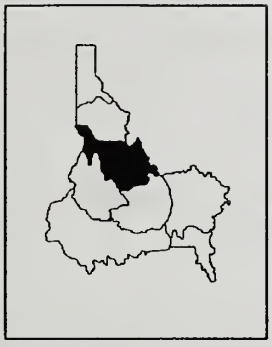
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
North Fork Clearwater	9	59	62
Lochsa River	3	51	54
Selway River	4	57	71
Clearwater Basin Total	17	56	62

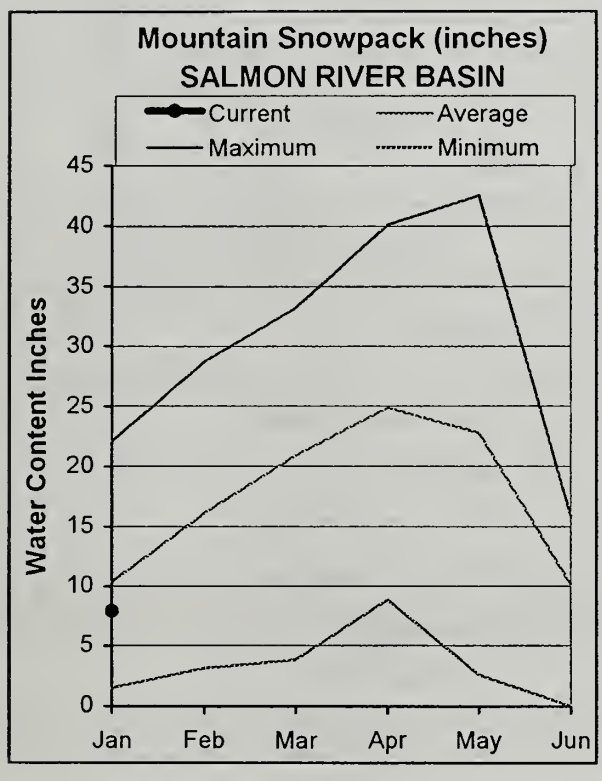
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

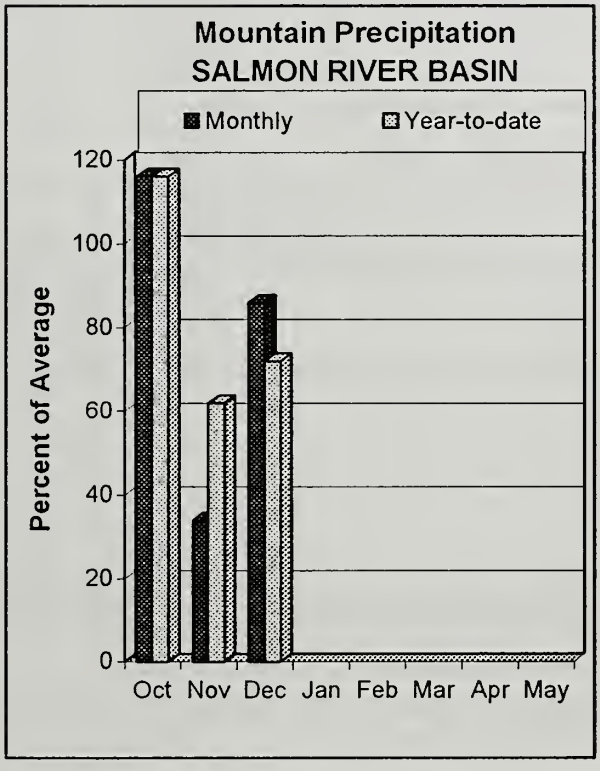
The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

SALMON RIVER BASIN
JANUARY 1, 2005







WATER SUPPLY OUTLOOK

The summer ended with above average precipitation in August, September and October. November brought only a third of average precipitation and 86% of average in December. Water year to date precipitation is 72% of average, less than last year. Snowpack percentages range from 70% of average in the Middle and South Fork Salmon basins to 80% in the Lemhi and Salmon River basin above Salmon. Overall, the Salmon basin snowpack is 76% of average, about three-quarters of last year's January snow. Streamflow forecasts for the April-July period are for 76% of average for the Middle Fork Salmon River; 78% for the Lemhi River; and 80% for the Salmon River at White Bird. Last year's streamflow was 70% of average for the Middle Fork and Main Salmon rivers. The good news this year is the soil moisture is better than a year ago which means less snowmelt water is needed to fill the deficit this spring depending on how the snow melts. To reach a near average snowpack on April 1, precipitation that is 20% above average from January to April is needed. If future precipitation is below average, water users and river runners could see similar flows to last year. Stay tuned, we still have half the winter to come.

SALMON RIVER BASIN
Streamflow Forecasts - January 1, 2005

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SALMON at Salmon (1)	APR-JUL	215	515	655	77	795	1095	855
	APR-SEP	325	625	765	77	905	1205	1000
Lemhi River nr Lemhi	APR-JUL	33	52	67	78	84	112	86
	APR-SEP	44	66	84	80	104	136	105
MF Salmon at MF Lodge	APR-JUL	361	496	600	76	714	899	785
	APR-SEP	408	556	670	77	794	996	875
SALMON at White Bird (1)	APR-JUL	2330	3950	4680	80	5410	7030	5850
	APR-SEP	2840	4460	5190	80	5920	7540	6480

SALMON RIVER BASIN
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg

SALMON RIVER BASIN
Watershed Snowpack Analysis - January 1, 2005

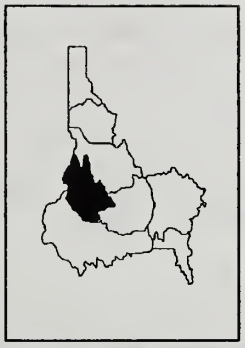
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Salmon River ab Salmon	9	82	79
Lemhi River	6	89	82
Middle Fork Salmon River	3	67	69
South Fork Salmon River	3	63	72
Little Salmon River	4	66	79
Salmon Basin Total	24	72	76

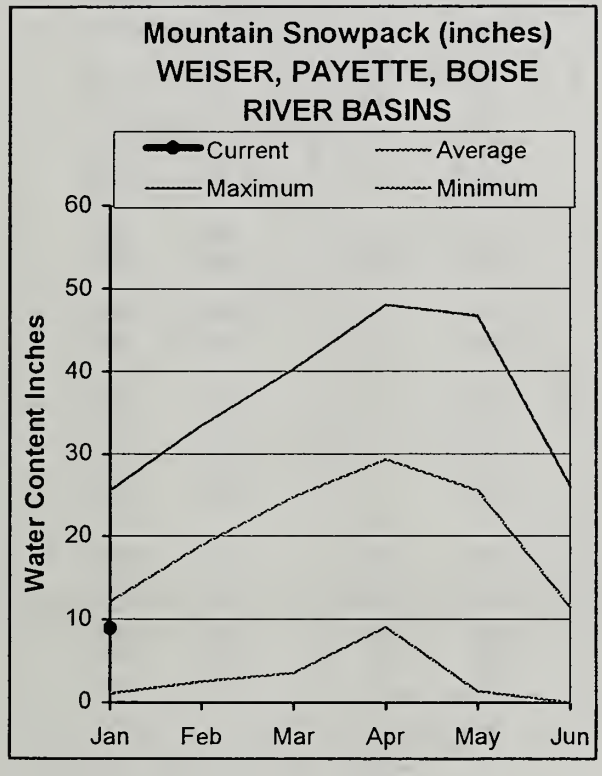
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

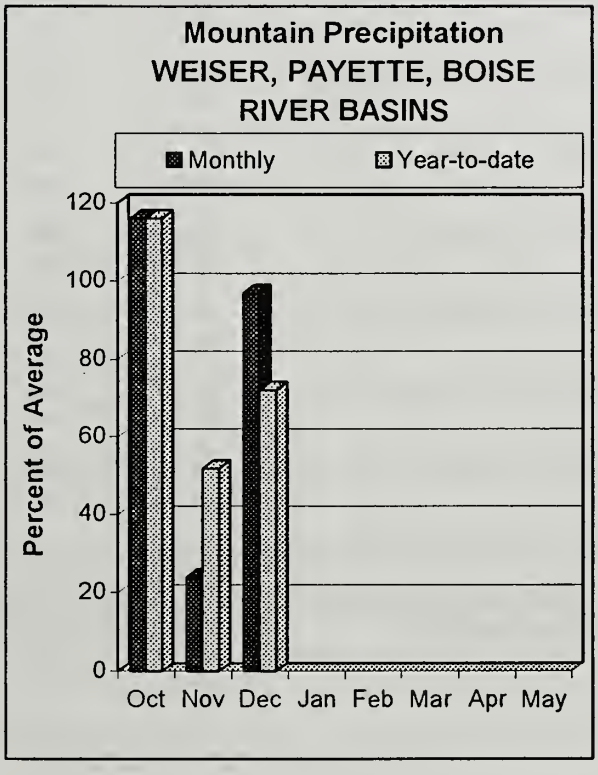
The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

WEISER, PAYETTE, BOISE RIVER BASINS JANUARY 1, 2005







WATER SUPPLY OUTLOOK

December precipitation rebounded to near average after November precipitation was only 24% of average. Water year to date precipitation is 72% of average, about 3/4s of last year. Snowpacks range from 70% of average in the Payette and Mann basins to 85% in the Boise and Weiser basins. The snowpacks are less than a year ago when they were 105-120% of average. Payette Reservoir system storage is average at 63% of capacity, while the Boise system is 69% of average, 38% of capacity. Streamflow forecasts are for 70% of average for the Payette River near Horseshoe Bend; last year's April-July flow was 75% of average. The Boise River is forecast at 78% of average, last year was 62% of average. With the current snowpacks at only 30-35% of their April seasonal peaks, precipitation that is 20% above average is needed to just reach normal snow levels by April 1. Currently the Boise basin snowpack is the lowest since 2001, when the April 1 snow peaked at only half of average. However, other years with a similar January 1 as this year, recovered to average or better conditions by April 1. Let's hope Idaho remains in the storm track with above average precipitation for the rest of the season.

WEISER, PAYETTE, BOISE RIVER BASINS
Streamflow Forecasts - January 1, 2005

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
WEISER near Weiser (1)	APR-SEP	167	243	295	70	370	530	420
SF PAYETTE at Lowman	APR-JUL	158	245	300	68	355	440	440
	APR-SEP	200	290	350	71	410	500	495
DEADWOOD RESERVOIR Inflow (1,2)	APR-JUL	46	82	98	73	114	150	134
	APR-SEP	52	88	104	73	120	156	142
LAKE FORK PAYETTE near McCall	APR-JUL	39	51	59	69	67	79	85
	APR-SEP	41	53	61	69	69	81	89
NF PAYETTE at Cascade (1,2)	APR-JUL	159	295	360	74	425	560	490
	APR-SEP	189	325	390	74	455	590	530
NF PAYETTE nr Banks (2)	APR-JUL	230	365	455	71	545	680	645
	APR-SEP	250	395	490	71	585	730	690
PAYETTE nr Horseshoe Bend (1,2)	APR-JUL	450	915	1130	70	1340	1810	1610
	APR-SEP	535	1010	1230	70	1450	1930	1750
BOISE near Twin Springs (1)	APR-JUL	310	440	500	79	560	690	635
	APR-SEP	285	460	540	78	620	795	690
SF BOISE at Anderson Ranch Dam (1,2)	APR-JUL	280	380	425	79	470	570	540
	APR-SEP	210	380	455	78	530	700	580
MORES CREEK near Arrowrock Dam	APR-JUL	70	99	118	90	137	166	131
	APR-SEP	74	103	123	90	143	172	137
BOISE near Boise (1,2)	APR-JUN	490	830	980	78	1130	1470	1260
	APR-JUL	495	910	1100	78	1290	1700	1410
	APR-SEP	580	1000	1190	78	1380	1800	1530

WEISER, PAYETTE, BOISE RIVER BASINS
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MANN CREEK	11.1	1.6	0.8	3.3
CASCADE	693.2	463.2	411.1	456.4
DEADWOOD	161.9	73.0	81.9	82.5
ANDERSON RANCH	450.2	217.3	277.2	296.8
ARROWROCK	272.2	85.7	1.3	173.1
LUCKY PEAK	293.2	84.6	156.8	95.5
LAKE LOWELL (DEER FLAT)	165.2	114.2	103.4	98.4

WEISER, PAYETTE, BOISE RIVER BASINS
Watershed Snowpack Analysis - January 1, 2005

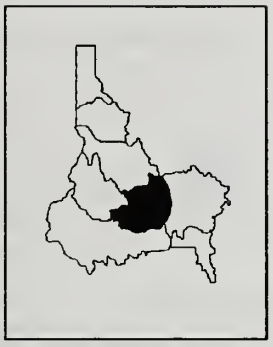
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Mann Creek	1	71	67
Weiser River	3	63	82
North Fork Payette	8	56	72
South Fork Payette	5	62	70
Payette Basin Total	14	60	73
Middle & North Fork Boise	5	65	73
South Fork Boise River	9	71	84
Mores Creek	5	60	88
Boise Basin Total	16	66	82
Canyon Creek	2	63	93

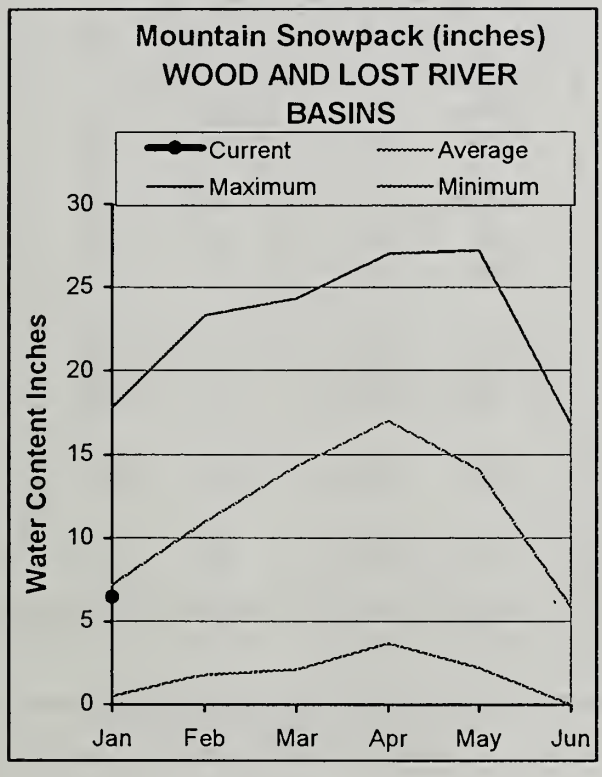
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

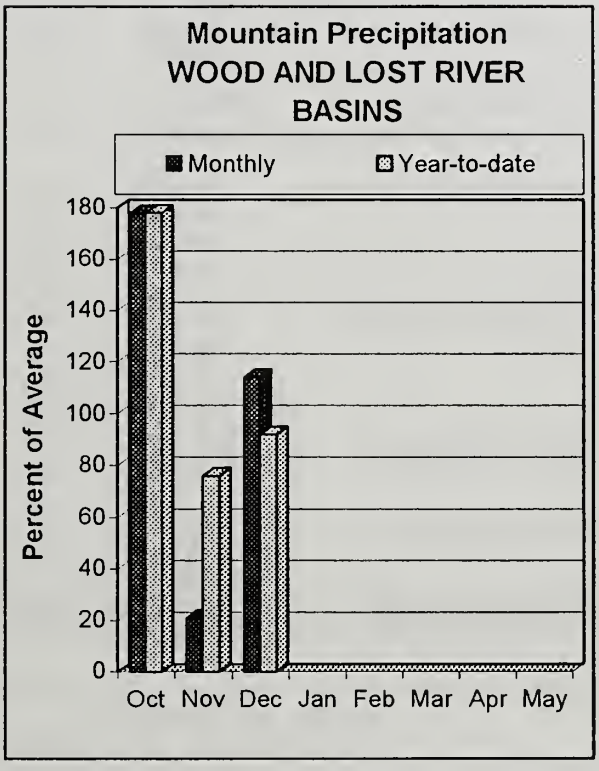
The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

WOOD and LOST RIVER BASINS
JANUARY 1, 2005







WATER SUPPLY OUTLOOK

December precipitation was 114% of average, highest in the state, a big increase over the November precipitation which was only 21% and the lowest in the state. Water year to date precipitation is 92% of average, the same as a year ago. The difference in precipitation is that more precipitation fell as rain this year soaking into the ground and improving the antecedent soil moisture conditions. Last year a series of storms brought abundant moisture over the holidays increasing the snowpack to 90-125% of average by January 1. This year, the snowpack is 85-95% of average. Soil moisture is better than a year ago as a result of the fall rains this year. Magic Reservoir storage is the same as last year at 10% of capacity, 25% of average; Little Wood and Mackay reservoirs are slightly better than last year at 35% of capacity, 70% of average. Streamflow forecasts range from 57-78% of average. Water users should keep an eye on the sky, with snowpacks at 35-45% of their seasonal peaks, conditions can still improve but it is going to require above average mountain precipitation.

WOOD AND LOST RIVER BASINS
Streamflow Forecasts - January 1, 2005

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
BIG WOOD at Hailey (1)	APR-JUL	81	145	180	71	219	318	255
	APR-SEP	95	166	205	71	248	356	290
BIG WOOD ab Magic Reservoir	APR-JUL	44	86	126	66	177	275	190
	APR-SEP	49	101	136	67	189	265	204
CAMAS CREEK near Blaine	APR-JUL	17.0	38	57	57	80	120	100
	APR-SEP	18.0	39	58	57	81	122	101
BIG WOOD below Magic Dam (2)	APR-JUL	55	126	175	60	252	367	290
	APR-SEP	57	133	184	60	265	380	305
LITTLE WOOD R ab High Five Ck	MAR-JUL	30	50	66	78	85	116	85
	MAR-SEP	33	54	71	77	91	124	92
	APR-JUL	26	44	60	77	78	109	78
	APR-SEP	29	49	66	78	85	118	85
LITTLE WOOD near Carey (2)	MAR-JUL	20	53	75	78	97	130	96
	MAR-SEP	23	58	81	78	104	139	104
	APR-JUL	16.0	47	68	78	89	120	87
	APR-SEP	18.0	51	73	78	95	128	94
BIG LOST at Howell Ranch	APR-JUL	57	94	120	69	157	212	173
	APR-SEP	64	106	135	69	177	237	197
BIG LOST bl Mackay Reservoir	APR-JUL	49	76	95	67	125	169	141
	APR-SEP	59	93	116	67	153	205	172
LITTLE LOST bl Wet Creek	APR-JUL	11.0	18.0	22	71	26	33	31
	APR-SEP	12.2	20	26	67	32	40	39

WOOD AND LOST RIVER BASINS
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
MAGIC	191.5	20.0	17.8	79.7
LITTLE WOOD	30.0	10.2	9.1	14.1
MACKAY	44.4	15.4	13.7	23.7

WOOD AND LOST RIVER BASINS
Watershed Snowpack Analysis - January 1, 2005

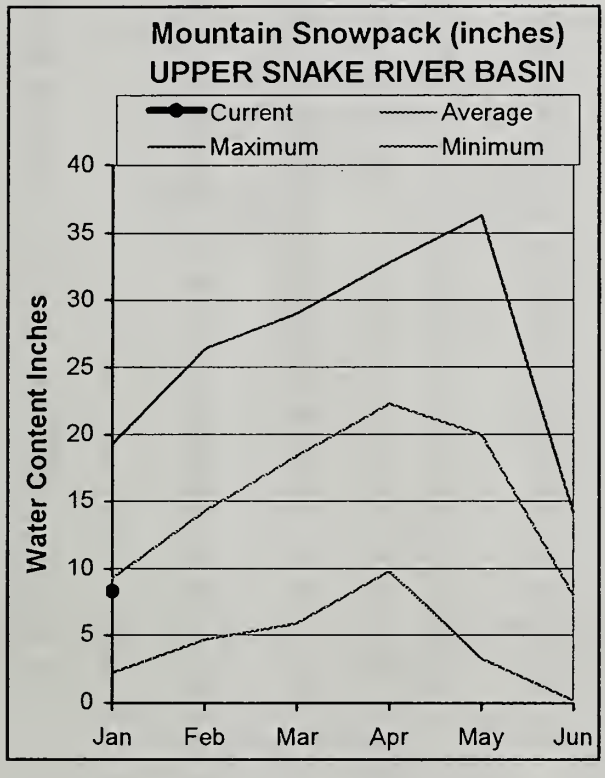
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Big Wood ab Hailey	8	89	91
Camas Creek	5	58	90
Big Wood Basin Total	13	77	91
Fish Creek	0	0	0
Little Wood River	5	80	98
Big Lost River	5	82	92
Little Lost River	3	91	82
Birch-Medicine Lodge Cree	2	90	84
Camas-Beaver Creeks	4	78	98

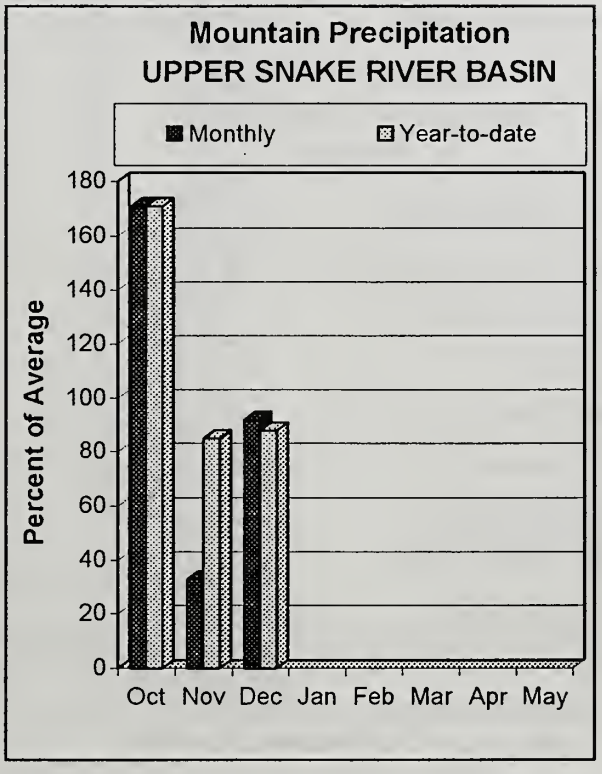
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

UPPER SNAKE RIVER BASIN
JANUARY 1, 2005





WATER SUPPLY OUTLOOK

Mountain precipitation since September ranged from 171% of average in October to 33% in November. December precipitation was 92% of average. Water year to date precipitation is 88% of average, which is less than last year at this time. December and January are the mountains biggest precipitation months with stations in Yellowstone National Park receiving 7-8 inches each month. Average or better precipitation is critical in the next few months, otherwise the snowpack will continue decreasing from the current percent of average levels. Snowpack percentages range from a high of 95% of average in the headwaters of the Henrys Fork, Falls and Portneuf basins to 70% in the Teton, Willow and Blackfoot basins. The Snake River snowpack above Jackson Lake is 74% of average, increasing to 78% above Palisades Reservoir and to 81% above American Falls. Blackfoot Reservoir is only 8% of capacity, 13% of average. Palisades Reservoir and Jackson Lake have a combined storage of 27% of capacity, 41% of average, slightly better than last year. American Falls Reservoir is 45% of capacity, 76% of average. Streamflow forecasts call for 75% of average for Snake River near Heise and Henrys Fork and only 57% for American Falls Inflow. Summer streamflow the past three years at the Snake River near Heise has been 70% of average. With more than half the winter still to come conditions can improve, but based on the current information thus far, water supplies may be similar to the past few years.

UPPER SNAKE RIVER BASIN
Streamflow Forecasts - January 1, 2005

Forecast Point	Forecast Period	<<===== Drier ===== Future Conditions ===== Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
HENRYS FORK near Ashton (2)	APR-JUL	315	370	410	72	450	505	570
	APR-SEP	445	510	555	73	600	665	765
HENRYS FORK near Rexburg (2)	APR-JUL	865	1030	1150	74	1270	1440	1560
	APR-SEP	1160	1350	1480	74	1610	1800	2010
FALLS RIVER nr Ashton (2)	APR-JUL	220	275	310	82	345	400	380
	APR-SEP	260	320	365	81	410	470	450
TETON RIVER NEAR DRIGGS	APR-JUL	64	94	115	70	136	166	165
	APR-SEP	83	120	145	69	170	208	210
TETON near St. Anthony	APR-JUL	180	245	290	72	335	400	405
	APR-SEP	220	295	345	72	395	470	480
SNAKE at Flagg Ranch	APR-JUL	255	340	400	85	460	545	470
	APR-SEP	275	370	435	85	500	595	515
SNAKE nr Moran (1,2)	APR-JUL	435	575	640	79	705	845	815
	APR-SEP	475	635	710	79	785	945	905
PACIFIC CREEK at Moran	APR-JUL	87	113	130	76	147	171	171
	APR-SEP	96	122	140	79	158	183	178
SNAKE ab resv nr Alpine (1,2)	APR-JUL	1190	1640	1850	78	2060	2510	2370
	APR-SEP	1390	1900	2130	78	2360	2870	2730
GREYS above Palisades	APR-JUL	145	205	245	72	285	345	340
	APR-SEP	175	240	285	72	330	395	395
SALT near Etna	APR-JUL	128	200	245	72	290	360	340
	APR-SEP	170	250	305	73	360	440	420
SNAKE nr Irwin (1,2)	APR-JUL	1570	2230	2530	76	2830	3490	3330
	APR-SEP	1860	2600	2940	76	3280	4020	3870
SNAKE near Heise (2)	APR-JUL	1880	2360	2680	75	3000	3480	3560
	APR-SEP	2230	2770	3140	76	3510	4050	4160
WILLOW CREEK nr Ririe	MAR-JUL	14.6	31	45	51	62	92	88
BLACKFOOT RESV INFLOW	APR-JUN	48	63	74	62	97	130	120
SNAKE nr Blackfoot (1,2)	APR-JUL	2090	3060	3500	76	3940	4910	4600
	APR-SEP	2860	3830	4270	76	4710	5680	5620
PORTNEUF at Topaz	MAR-JUL	41	54	63	71	72	85	89
	MAR-SEP	53	69	79	73	89	105	109
AMERICAN FALLS RESV INFLOW (1,2)	APR-JUL	1149	1602	1910	59	2450	3640	3240
	APR-SEP	1309	1762	2070	59	2610	3800	3510

UPPER SNAKE RIVER BASIN
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
HENRYS LAKE	90.4	64.2	66.6	82.5
ISLAND PARK	135.2	70.5	68.1	96.1
GRASSY LAKE	15.2	8.6	9.5	11.6
JACKSON LAKE	847.0	119.6	142.9	481.7
PALISADES	1400.0	496.2	398.9	1036.5
RIRIE	80.5	30.3	27.5	34.5
BLACKFOOT	348.7	28.0	---	215.3
AMERICAN FALLS	1672.6	748.5	609.9	986.6

UPPER SNAKE RIVER BASIN
Watershed Snowpack Analysis - January 1, 2005

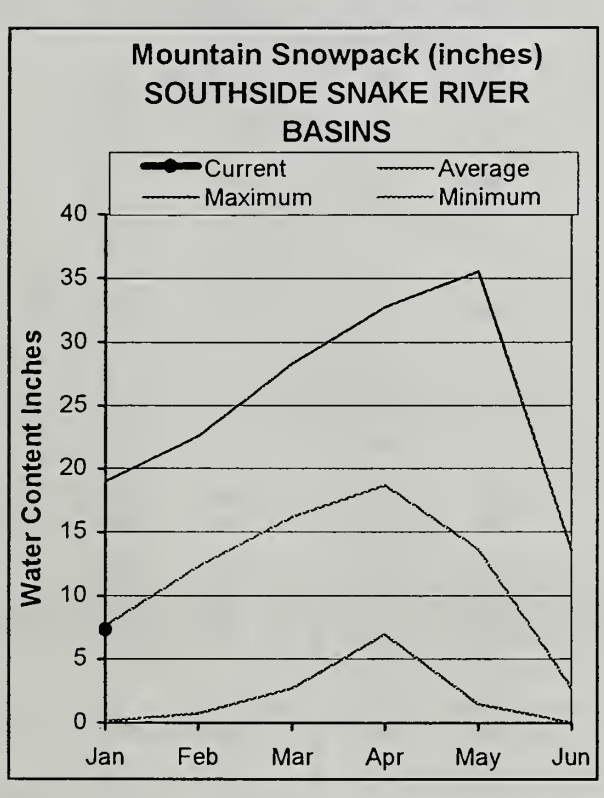
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Henrys Fork-Falls River	10	69	92
Teton River	7	66	70
Henrys Fork above Rexburg	17	69	84
Snake above Jackson Lake	9	58	74
Gros Ventre River	2	81	82
Hoback River	5	75	77
Greys River	4	83	78
Salt River	3	75	80
Snake above Palisades	21	68	78
Willow Creek	7	47	69
Blackfoot River	3	54	67
Portneuf River	3	73	97
Snake abv American Falls	37	68	81

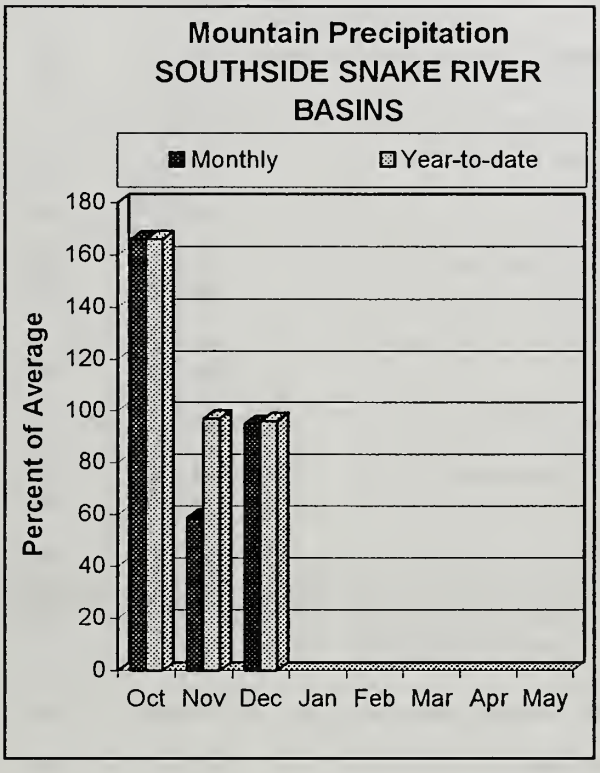
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

SOUTHSIDE SNAKE RIVER BASINS JANUARY 1, 2005





WATER SUPPLY OUTLOOK

Fall precipitation varied across these high desert basins with the fall rains improving the soil moisture conditions when compared to a year ago. Some snow surveyors are reporting frozen soils under this year's snowpack. Water year to date precipitation is slightly higher in the Oakley basin at 103% of average and decreases to 97% in Salmon Falls basin and 93% in the Bruneau and Owyhee basins. The snowpack mirrors these precipitation trends with near average snow water content amounts in the Raft, Oakley and Salmon Falls basins, 90% of average in the Bruneau basin, and only 68% of average in the Owyhee basin. The low elevation Owyhee aerial markers are not measured by fix-wing until the February 1 survey. Reservoir storage remains low with Oakley, Salmon Falls, Wildhorse and Owyhee reservoirs at 8-23% of capacity, 30-40% of average. Brownlee Reservoir is average. However, streamflow in the middle Snake River at King Hill and at Weiser are currently near record low levels since the data records start in the early 1900s. Streamflow forecasts range from 60-75% of average for most streams in this area. With more than half the winter still to come, water users and river runners should keep an eye on the sky and hope Mother Nature keeps the storms rolling across Idaho.

SOUTHSIDE SNAKE RIVER BASINS
Streamflow Forecasts - January 1, 2005

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
OAKLEY RESERVOIR INFLOW	MAR-JUL	11.9	18.1	23	68	29	38	34
	MAR-SEP	13.3	19.8	25	68	31	40	37
OAKLEY RESV STORAGE	FEB-28	12.6	14.9	16.4	52	17.9	20	31
	MAR-31	16.1	19.0	21	58	23	26	36
	APR-30	18.4	22	25	61	28	32	41
SALMON FALLS CREEK nr San Jacinto	MAR-JUN	23	42	55	62	68	87	89
	MAR-JUL	22	43	57	61	71	92	93
	MAR-SEP	24	45	60	61	75	96	98
SALMON FALLS RESV STORAGE	FEB-28	18.8	22	25	42	28	31	60
	MAR-31	24	31	36	51	41	48	70
	APR-30	26	36	42	48	48	58	88
BRUNEAU near Hot Spring	MAR-JUL	102	143	175	75	210	267	235
	MAR-SEP	110	153	186	74	223	282	250
OWYHEE near Gold Creek (2)	MAR-JUL	6.5	15.1	21	66	27	36	32
	MAR-SEP	5.6	14.1	19.9	64	26	34	31
OWYHEE nr Owyhee (2)	APR-JUL	21	42	56	68	77	108	82
OWYHEE near Rome	FEB-JUL	166	306	425	65	564	804	655
	FEB-SEP	180	323	445	66	586	829	675
OWYHEE RESV INFLOW (2)	FEB-JUL	206	355	480	69	623	868	700
	FEB-SEP	229	383	510	70	655	902	730
	APR-SEP	125	220	300	70	392	550	430
SUCCOR CK nr Jordan Valley	FEB-JUL	2.8	9.9	14.7	76	19.5	27	19.3
SNAKE RIVER at King Hill (1,2)	APR-JUL	319	1269	1700	58	2130	3080	2940
SNAKE RIVER near Murphy (1,2)	APR-JUL	380	1343	1780	58	2215	3180	3090
SNAKE RIVER at Weiser (1,2)	APR-JUL	1609	2283	2740	48	3715	5850	5770
SNAKE RIVER at Hells Canyon Dam (1,2	APR-JUL	1931	2716	3250	50	4320	6660	6490
SNAKE blw Lower Granite Dam (1,2)	APR-JUL	4027	11504	14900	69	18300	25770	21600

SOUTHSIDE SNAKE RIVER BASINS
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
OAKLEY	75.6	10.0	6.7	25.7
SALMON FALLS	182.6	15.2	11.9	52.6
WILDHORSE RESERVOIR	71.5	13.6	13.6	37.8
OWYHEE	715.0	163.0	56.0	398.1
BROWNLEE	1420.0	1373.4	1267.3	1303.0

SOUTHSIDE SNAKE RIVER BASINS
Watershed Snowpack Analysis - January 1, 2005

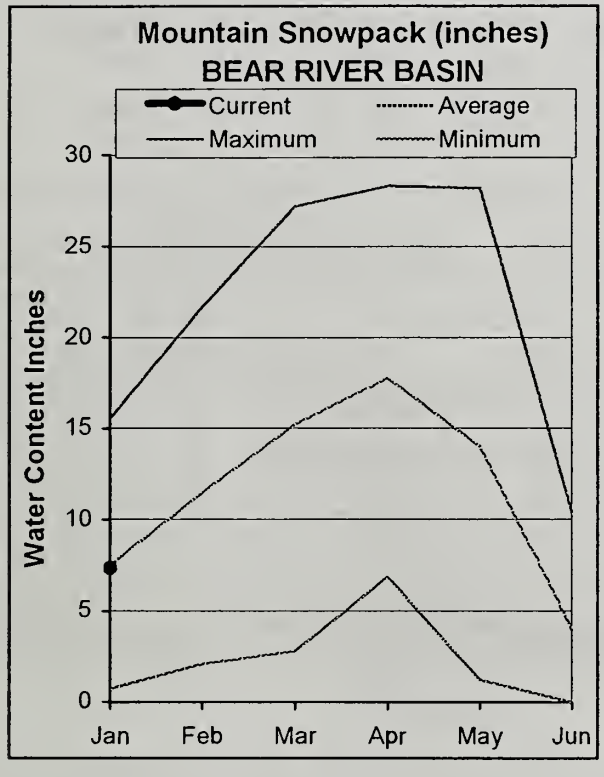
Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Raft River	1	81	101
Goose-Trapper Creeks	3	77	102
Salmon Falls Creek	6	76	96
Bruneau River	5	69	90
Owyhee Basin Total	8	47	68

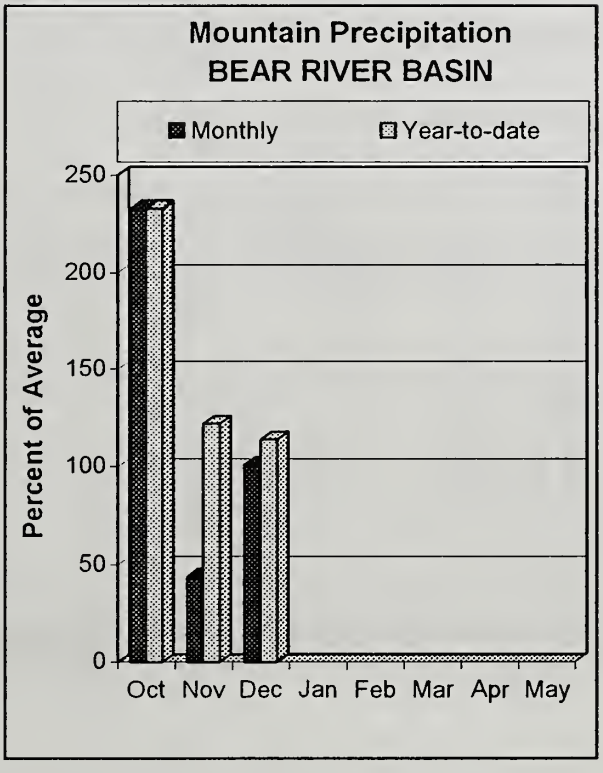
* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

BEAR RIVER BASIN
JANUARY 1, 2005





WATER SUPPLY OUTLOOK

Fall SNOTEL precipitation varied in the Bear River basin from near average in September, twice average in October, half of average in November, and average in December. As a result of the above average fall precipitation, soil moisture conditions are much better than a year ago, however, the soil moisture deficit may still exist in some areas as wetlands and springs are still drier than normal. Water year to date precipitation is 114% of average and is better than a year ago. The snowpack is near average in these Bear River basins and is currently 40% of the seasonal peak that occurs around April 1. Because of the cumulative drought and with Bear Lake even lower than a year ago at only 7% of capacity, 11% of average, above average snowfall is needed the rest of this season. The soil moisture is better than a year ago; however, the basin is still not primed in terms of producing a 1 to 1 relationship between snowpack and streamflow. A cool wet spring would also help improve the efficiency of the snow to produce streamflow. In the past decade, other years with a similar snow on January 1 as this year resulted in the best year at 115% of average on April 1. This occurred in 1996, while other years the snow was near average or less on April 1. The Bear River at Stewart Dam is forecast at 53% of average, the flow has been less than 10% of average the past three years. With more than half the winter still to come, above average precipitation is needed in the next few months.

BEAR RIVER BASIN
Streamflow Forecasts - January 1, 2005

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding * 90% (1000AF)	70% (1000AF)	50% (1000AF)	50% (% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
Bear River nr UT-WY State Line	APR-SEP	96	122	140	112	158	184	125
Bear River ab Reservoir nr Woodruff	APR-SEP	72	110	135	95	160	199	142
Smiths Fork nr Border	APR-JUL	58	80	95	92	110	132	103
	APR-SEP	68	93	110	91	127	152	121
Bear River at Stewart Dam	APR-JUL	50	88	120	51	157	221	234
	APR-SEP	61	104	140	53	181	251	262

BEAR RIVER BASIN
Reservoir Storage (1000 AF) - End of December

Reservoir	Usable Capacity	*** Usable Storage *** This Year	Last Year	Avg
BEAR LAKE	1421.0	95.7	134.7	907.5
MONTPELIER CREEK	4.0	1.5	0.8	1.7

BEAR RIVER BASIN
Watershed Snowpack Analysis - January 1, 2005

Watershed	Number of Data Sites	This Year as % of Last Yr	Average
Smiths & Thomas Forks	3	99	97
Bear River ab WY-ID line	10	104	109
Montpelier Creek	1	54	60
Mink Creek	1	90	108
Cub River	1	97	110
Bear River ab ID-UT line	15	98	108
Malad River	1	65	112

* 90%, 70%, 50%, 30%, and 10% chances of exceeding are the probabilities that the actual volume will exceed the volumes in the table

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural volume - actual volume may be affected by upstream water management.

Streamflow Adjustment List for All Forecasts Published in Idaho Water Supply Outlook Report: streamflow forecasts are projections of runoff volumes that would occur without influences from upstream reservoirs or diversions. These values are referred to as natural or adjusted flows. To make these adjustments, changes in reservoir storage, diversions, and inter-basin transfers are added or subtracted from the observed (actual) streamflow volumes. The following list documents the adjustments made for each forecast point. (Revised Dec. 2004).

Panhandle River Basins

Kootenai R at Leonia, ID
+ Lake Koocanusa (Storage Change)

Boundary Ck nr Porthill, ID – No Corrections

Moyie R at Eastport, ID – No Corrections

Smith Creek nr Porthill, ID – No Corrections

Clark Fork R at Whitehorse Rapids, ID
+ Hungry Horse (Storage Change)
+ Flathead Lake (Storage Change)
+ Noxon Rapids Resv (Storage Change)

Pend Oreille Lake Inflow, ID
+ Pend Oreille R at Newport, WA
+ Hungry Horse (Storage Change)
+ Flathead Lake (Storage Change)
+ Noxon Rapids (Storage Change
+ Pend Oreille Lake (Storage Change)
+ Priest Lake (Storage Change)

Priest R nr Priest R, ID
+ Priest Lake (Storage Change)

NF Coeur d'Alene R at Enaville, ID - No Corrections

St. Joe R at Calder, ID - No Corrections

Spokane R nr Post Falls, ID
+ Coeur d'Alene Lake (Storage Change)

Spokane R at Long Lake, WA
+ Coeur d'Alene Lake (Storage Change)
+ Long Lake, WA (Storage Change)

Clearwater River Basin

Selway R nr Lowell - No Corrections

Lochsa R nr Lowell - No Corrections

Dworshak Resv Inflow, ID
+ Clearwater R nr Peck, ID
- Clearwater R at Orofino, ID
+ Dworshak Resv (Storage Change)

Clearwater R at Orofino, ID - No Corrections

Clearwater R at Spalding, ID
+ Dworshak Resv (Storage Change)

Salmon River Basin

Salmon R at Salmon, ID - No Corrections

Lemhi R nr Lemhi, ID – No Corrections

MF Salmon R at MF Lodge, ID – No Corrections

Salmon R at White Bird, ID - No Corrections

Weiser, Payette, Boise River Basins

Weiser R nr Weiser, ID - No Corrections

SF Payette R at Lowman, ID - No Corrections

Deadwood Resv Inflow, ID
+ Deadwood R blw Deadwood Resv nr Lowman
+ Deadwood Resv (Storage Change)

Lake Fork Payette R nr Mccall, ID – No Corrections

NF Payette R at Cascade, ID
+ Cascade Resv (Storage Change)
+ Payette Lake (Storage Change)

NF Payette R nr Banks, ID
+ Cascade Resv (Storage Change)
+ Payette Lake (Storage Change)

Payette R nr Horseshoe Bend, ID
+ Cascade Resv (Storage Change)
+ Deadwood Resv (Storage Change)
+ Payette Lake (Storage Change)

Boise R nr Twin Springs, ID - No Corrections

SF Boise R at Anderson Ranch Dam, ID
+ Anderson Ranch Resv (Storage Change)

Boise R nr Boise, ID
+ Anderson Ranch Resv (Storage Change)
+ Arrowrock Resv (Storage Change)
+ Lucky Peak Resv (Storage Change)

Wood and Lost River Basins

Big Wood R at Hailey, ID - No Corrections

Big Wood R abv Magic Resv, ID
+ Big Wood R nr Bellevue, ID
+ Willow Ck

Camas Ck nr Blaine – No Corrections

Big Wood R blw Magic Dam nr Richfield, ID
+ Magic Resv (Storage Change)

Little Wood R abv High Five Ck, ID – No Corrections

Little Wood R nr Carey, ID
+ Little Wood Resv (Storage Change)

Big Lost R at Howell Ranch, ID - No Corrections

Big Lost R blw Mackay Resv nr Mackay, ID
+ Mackay Resv (Storage Change)

Little Lost R blw Wet Ck nr Howe, ID - No Corrections

Upper Snake River Basin

Henrys Fork nr Ashton, ID
+ Henrys Lake (Storage Change)
+ Island Park Resv (Storage Change)

Henrys Fork nr Rexburg, ID
+ Henrys Lake (Storage Change)
+ Island Park Resv (Storage Change)
+ Grassy Lake (Storage Change)
+ Diversions from Henrys Fk btw Ashton to St. Anthony, ID
+ Diversions from Henrys Fk btw St. Anthony to Rexburg, ID
+ Diversions from Falls R abv nr Ashton, ID
+ Diversions from Falls R nr Ashton to Chester, ID

Falls R nr Ashton, ID
+ Grassy Lake (Storage Change)
+ Diversions from Falls R abv nr Ashton, ID

Teton R nr Driggs, ID - No Corrections

Teton R nr St. Anthony, ID
- Cross Cut Canal into Teton R
+ Sum of Diversions for Teton R abv St. Anthony, ID

Snake R nr Moran, WY
+ Jackson Lake (Storage Change)

Pacific Ck at Moran, WY – No Corrections

Snake R abv Palisades, WY
+ Jackson Lake (Storage Change)

Greys R abv Palisades, WY – No Corrections
Salt R abv Palisades, WY – No Corrections
Palisades Resv Inflow, ID
+ Snake R nr Irwin, ID
+ Jackson Lake (Storage Change)
+ Palisades Resv (Storage Change)
Snake R nr Heise, ID
+ Jackson Lake (Storage Change)
+ Palisades Resv (Storage Change)
Willow Ck nr Ririe, ID
+ Ririe Resv (Storage Change)
Blackfoot Resvervoir Inflow, ID
+ Blackfoot R
+ Blackfoot Resv (Storage Change
Snake R nr Blackfoot, ID
+ Palisades Resv (Storage Change)
+ Jackson Lake (Storage Change)
+ Diversions from Snake R btw Heise and Shelly
+ Diversions from Snake R btw Shelly and Blackfoot
Portneuf R at Topaz, ID - No Corrections
American Falls Resv Inflow, ID
+ Snake River at Neeley
+ All Corrections Made for Henrys Fk nr Rexburg, ID
+ Jackson Lake (Storage Change)
+ Palisades Resv (Storage Change)
+ Diversions from Snake R btw Heise and Shelly
+ Diversions from Snake R btw Shelly and Blackfoot

Southside Snake River Basins
Oakley Resv Inflow, ID
+ Goose Ck abv Trapper Ck
+ Trapper Ck nr Oakley
Salmon Falls Ck nr San Jacinto, NV - No Corrections
Bruneau R nr Hot Springs, ID - No Corrections
Owyhee R nr Gold Ck, NV
+ Wildhorse Resv (Storage Change)
Owyhee R nr Owyhee, NV
+ Wildhorse Resv (Storage Change)
Owyhee R nr Rome, OR – No Corrections
Owyhee Resv Inflow, OR
+ Owyhee R blw Owyhee Dam, OR
+ Owyhee Resv (Storage Change)
+ Diversions to North and South Canals
Succor Ck nr Jordan Valley, OR - No Corrections
Snake R at King Hill, ID - No Corrections
Snake R nr Murphy, ID - No Corrections
Snake R at Weiser, ID - No Corrections
Snake R at Hells Canyon Dam, ID
+ Brownlee Resv (Storage Change)

Bear River Basin
Bear R nr UT-WY Stateline, UT – No Corrections
Bear R abv Resv nr Woodruff, UT – No Corrections
Smiths Fork nr Border, WY - No Corrections
Bear R blw Stewart Dam nr Montpelier, ID
+ Bear R blw Stewart Dam
+ Rainbow Inlet Canal

Reservoir Capacity Definitions (Units In 1,000 Acre-Feet, KAF)
Different agencies use various definitions when reporting reservoir capacity and contents. Reservoir storage terms include dead, inactive, active, and surcharge storage. This table lists these volumes for each reservoir, and defines the storage volumes NRCS uses when reporting capacity and current reservoir storage. In most cases, NRCS reports usable storage, which includes active and inactive storage. (Revised December 2004)

Basin/ Reservoir	Dead Storage	Inactive Storage	Active Storage	Surcharge Storage	Nrcs Capacity	Nrcs Capacity Includes
Panhandle Region						
Hungry Horse	39.73	--	3451.00	--	3451.0	Active
Flathead Lake	Unknown	--	1791.00	--	1971.0	Active
Noxon Rapids	Unknown	--	335.00	--	335.0	Active
Pend Oreille	406.20	112.40	1042.70	--	1561.3	Dead+Inactive+Active
Coeur d'Alene	--	13.50	225.00	--	238.5	Inactive+Active
Priest Lake	20.00	28.00	71.30	--	119.3	Dead+Inactive+Active
Clearwater Basin						
Dworshak	--	1452.00	2016.00	--	3468.0	Inactive+Active
Weiser/Boise/Payette Basins						
Mann Creek	1.61	0.24	11.10	--	11.1	Active
Cascade	--	46.70	646.50	--	693.2	Inactive+Active
Deadwood	--	--	161.90	--	161.9	Active
Anderson Ranch	24.90	37.00	413.10	--	450.1	Inactive+Active
Arrowrock	--	--	272.20	--	272.2	Active
Lucky Peak	--	28.80	264.40	13.80	293.2	Inactive+Active
Lake Lowell	7.90	5.80	159.40	--	165.2	Inactive+Active
Wood/Lost Basins						
Magic	Unknown	--	191.50	--	191.5	Active
Little Wood	--	--	30.00	--	30.0	Active
Mackay	0.13	--	44.37	--	44.4	Active
Upper Snake Basin						
Henrys Lake	--	--	90.40	--	90.4	Active
Island Park	0.40	--	127.30	7.90	135.2	Active+Surcharge
Grassy Lake	--	--	15.18	--	15.2	Active
Jackson Lake	Unknown	--	847.00	--	847.0	Active
Palisades	44.10	155.50	1200.00	--	1400.0	Dead+Inactive+Active
Ririe	4.00	6.00	80.54	10.00	80.5	Active
Blackfoot	--	--	348.73	--	348.7	Active
American Falls	--	--	1672.60	--	1672.6	Active
Southside Snake Basins						
Oakley	0	--	75.60	--	75.6	Active
Salmon Falls	48.00	5.0	182.65	--	182.6	Active+Inactive
Wildhorse	--	--	71.50	--	71.5	Active
Owyhee	406.83	--	715.00	--	715.0	Active
Brownlee	0.45	444.70	975.30	--	1420.0	Inactive+Active
Bear River Basin						
Bear Lake	5.0 maf	--	1421.00	--	1421.0	Active
Montpelier Creek	0.21	--	3.84	--	4.0	Dead+Active

Interpreting Streamflow Forecasts

ntroduction

:ach month, five forecasts are issued for each forecast point and each forecast period. Unless otherwise specified, all treamflovv forecasts are for streamflow volumes that would occur naturally without any upstream influences. Water isers need to know what the different forecasts represent if they are to use the information correctly when making perational decisions. The following is an explanation of each of the forecasts.

Most Probable (50 Percent Chance of Exceeding) Forecast. This forecast is the best estimate of streamflow volume hat can be produced given current conditions and based on the outcome of similar past situations, There is a 50 percent hance that the streamflow volume will exceed this forecast value. There is a 50 percent chance that the streamflow olume will be less than this forecast value.

The most probable forecast will rarely be exactly right. due to errors resulting from future weather conditions and the orecast equation itself. This does not mean that users should not use the most probable forecast; it means that they need o evaluate existing circumstances and determine the amount of risk they are willing to take by accepting this forecast alue.

To Decrease the Chance of Having Too Little Water

f users want to make sure there is enough water available for their operations, they might determine that a 50 percent hance of the streamflow volume being lower than the most probable forecast is too much risk to take. To reduce the risk f not having enough water available during the forecast period, users can base their operational decisions on one of the orecasts with a greater chance of being exceeded (or possibly some point in-between). These include:

70 Percent Chance of Exceeding Forecast. There is a 70 percent chance that the streamflow volume will exceed this forecast value.
There is a 30 percent chance the streamflow volume will be less than this forecast value.

90 Percent Chance of Exceeding Forecast. There is a 90 percent chance that the streamflow volume will exceed this forecast value.
There is a 10 percent chance the streamflow volume will be less than this forecast value.

To Decrease the Chance of Having Too Much Water

f users want to make sure they don't have too much water, they might determine that a 50 percent chance of the treamflow being higher than the most probable forecast is too much of a risk to take. To reduce the risk of having too much water available during the forecast period, users can base their operational decisions on one of the forecasts with a smaller chance of being exceeded. These include:

30 Percent Chance of Exceeding Forecast. There is a 30 percent chance that the streamflow volume will exceed this forecast value. There is a 70 percent chance the streamflow volume will be less than this forecast value.

10 Percent Chance of Exceeding Forecast. there is a 10 percent chance that the streamflow volume will exceed this forecast value. There is a 90 percent chance the streamflow volume will be less than this forecast value.

Using the forecasts - an example

Using the Most Probable Forecast. Using the example forecasts shown below, users can reasonably expect 36,000 acre-feet to flow past the gaging station on the Mary's River near Death between March I and July 31.

Using the Higher Exceedence Forecasts. If users anticipate a somewhat drier trend in the future (monthly and seasona weather outlooks are available from the National Weather Service every two weeks), or if they are operating at a level where an unexpected shortage of water could cause problems, they might want to plan on receiving only 20,000 acre-fee (from the 70 percent chance of exceeding forecast). In seven out of ten years with similar conditions, streamflow volumes will exceed the 20,000 acre-foot forecast.

If users anticipate extremely dry conditions for the remainder of the season, or if they determine the risk of using the 70 percent chance of exceeding forecast is too great, then they might plan on receiving only 5000 acre-feet (from the 90 percent chance of exceeding forecast). Nine out of ten years with similar conditions, streamflow volumes will exceed the 5000 acre-foot forecast.

Using the Lower Exceedance Forecasts. If users expect wetter future conditions, or if the chance that five out of every ten years with similar conditions would produce streamflow volumes greater than 36,000 acre-feet was more than they would like to risk, they might plan on receiving 52,000 acre-feet (from the 30 percent chance of exceeding forecast) to minimize potential flooding problems. Three Out of ten years with similar conditions, streamflows will exceed the 52,000 acre-foot forecast.

In years when users expect extremely wet conditions for the remainder of the season and the threat of severe flooding and downstream damage exists, they might choose to use the 76,000 acre-foot (10 percent chance of exceeding) forecast for their water management operations. Streamflow volumes will exceed this level only one year out of ten.

WEISER, PAYETTE, BOISE RIVER BASINS
Streamflow Forecasts

Forecast Point	Forecast Period	<<====== Drier ====== Future Conditions ======= Wetter =====>> Chance Of Exceeding *						
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
SF PAYETTE RIVER at Lowman	APR-JUL	329	414	471	109	528	613	432
	APR-SEP	369	459	521	107	583	673	488
BOISE RIVER near Twin Springs (1)	APR-JUL	443	610	685	109	760	927	631
	APR-SEP	495	670	750	109	830	1005	

For more information concerning streamflow forecasting ask your local NRCS field office for a copy of "A **Field** *Office Guide* **for** *Interpreting Streamflow Forecasts" or visit our Web page.*

USDA Natural Resources Conservation Service
9173 West Barnes Drive, Suite C
Boise ID 83709-1574

OFFICIAL BUSINESS

Issued by
Bruce I. Knight, Chief
Natural Resources Conservation Service
Washington, DC

Released by
Richard Sims, State Conservationist
Natural Resources Conservation Service
Boise, Idaho

Prepared by
Snow Survey Staff
Ron Abramovich, Water Supply Specialist
Philip Morrisey, Hydrologist
James Montesi, Hydrologist
Kelly Vick, Data Analyst
Jeff Graham, Electronics Technician

Assistance provided by
Tom Perkins, Senior Forecast Hydrologist,
NRCS, National Water and Climate Center, Portland, Oregon

Cooperative funding for printing provided by
Idaho Department of Water Resources

Numerous other agencies provide funding and/or
cooperative support for the collection, operation
and maintenance of the Snow Survey Program.
Their cooperation is greatly appreciated.